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APPLICATION OF LANDSAT-2 DATA TO THE IMPLEMENTATION AND ENFORCEMENT OF  
THE PENNSYLVANIA SURFACE MINING CONSERVATION AND RECLAMATION ACT

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E 7.6 - 10398  
CR-148185

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JUNE 19, 1976

TYPE II PROGRESS REPORT

FOR PERIOD MARCH 19, 1976 - JUNE 19, 1976

(E76-10398) APPLICATION OF LANDSAT-2 DATA  
TO THE IMPLEMENTATION AND ENFORCEMENT OF THE  
PENNSYLVANIA SURFACE MINING CONSERVATION AND  
RECLAMATION ACT Progress Report, 19 Mar. -  
19 Jun. 1976 (Earth Satellite Corp.) 5 p HC G3/43

N76-26626  
HC \$3.50  
Unclassified  
00398

Prepared for:

GODDARD SPACE FLIGHT CENTER  
GREENBELT, MARYLAND 20771

## TECHNICAL REPORT STANDARD TITLE PAGE

1. Report No. 21570-II-5	2. Government Accession No.	3. Recipient's Catalog No.	
4. Title and Subtitle APPLICATION OF LANDSAT-2 DATA TO THE IMPLEMENTATION AND ENFORCEMENT OF THE PENNSYLVANIA SURFACE MINING CONSERVATION & RECLAMATION ACT		5. Report Date JUNE 19, 1975	
7. Author(s) ORVILLE R. RUSSELL		6. Performing Organization Code	
9. Performing Organization Name and Address EARTH SATELLITE CORPORATION 7222 - 47th STREET WASHINGTON, D.C. 20015		8. Performing Organization Report No. C-1037-II-5	
12. Sponsoring Agency Name and Address GODDARD SPACE FLIGHT CENTER GREENBELT, MARYLAND 20771 TECH. MONITOR: HAROLD OSEROFF CODE 902 GSFC		10. Work Unit No. <i>etc.</i>	
15. Supplementary Notes  NA		11. Contract or Grant No. NAS5-21998	
16. Abstract  THE REASSIGNMENT OF THE PROGRAM TO A NEW PRINCIPAL INVESTIGATOR WITHIN EARTH SATELLITE CORPORATION AND THE INTEGRATION OF THE PROJECT INTO EXISTING SCHEDULES HAS PRODUCED A DELAY IN PROGRESS. THE PROGRAM ACTIVITIES AS ESTABLISHED BY THE FORMER P.I. ARE TO BE CONTINUED.		13. Type of Report and Period Covered TYPE II MARCH 1976 - JUNE 19, 1976	
17. Key Words (Selected by Author(s)) o UNSUPERVISED DIGITAL CLASSIFICATION o SURFACE MINING DISTURBANCE INVENTORY		18. Distribution Statement	
19. Security Classif. (of this report)	20. Security Classif. (of this page)	21. No. of Pages 6	22. Price*

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AND ENFORCEMENT OF THE PENNSYLVANIA  
SURFACE MINING CONSERVATION AND RECLAMATION ACT

TYPE II - Progress Report

For Period March 19, 1976 - June 19, 1976

Introduction to Project Objectives

The central objectives of the Pennsylvania LANDSAT Investigation are:

- To prepare information products from analysis of LANDSAT and aircraft imagery to rapidly and effectively implement the regulatory provisions of Pennsylvania's Surface Mining Conservation and Reclamation Act.
- To develop and operationally implement a monitoring system, within one or more detailed study sites, which will include surface mine disturbance change detection, reclamation status monitoring and mined lands inventory updating.
- To provide utilitarian regulatory information products to line agencies within the Pennsylvania Department of Environmental Resources.

### Problems

The departure of Mr. Daniel J. Deely from employment with Earth Satellite Corporation necessitated the assignment of this program to a new principal investigator. With NASA approval Mr. Orville R. Russell has assumed this position.

This has required the integration of this program into existing schedules with a resultant delay in progress.

### Accomplishments

Fifth quarter activities: The activities for this period have been restricted to familiarization of the new principal investigator with the work conducted to date. No redirection of the approach to the accomplishment of the objectives are anticipated.

Planned sixth quarter activities: Investigative effort during the next quarterly reporting period from June 19, 1976 to September 19, 1976 is expected to be directed toward accomplishment of the following tasks:

- Production and delivery to the Pennsylvania Bureau of Surface Mine Reclamation of a barren to partially revegetated surface mined lands inventory of a multi-county area in northwestern Pennsylvania. Disturbance inventory data derived from digital density slicing is expected to be utilized by regulatory personnel as an aid to achievement of full implementation of regulatory control over all forms of surface mining within counties presently without assigned mining inspectors as required by specific provisions of the Surface Mining Conservation and Reclamation Act.

- Completion of a digital band 5/band 6 ratio color composite for comparison with other photographic and digitally derived LANDSAT data products.
- Further evaluation of photographic multi-date change detection mined lands information delivery potential.
- Further work toward development of a multi-stage sampling design for generation of periodic digitally-derived LANDSAT surface mining activity and reclamation status monitoring reports. The multi-stage system is expected to include supervised on unsupervised digital classification in the first LANDSAT stage, with manually interpreted underflight imagery information in the second stage.

#### Significant Results

None.

#### Publications

None.

#### Recommendations

None.